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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,131	04/02/2004	Angela T. Hui	H0346 / AMDP879US	1493
23623	7590	05/10/2006	EXAMINER	
AMIN & TUROCY, LLP 1900 EAST 9TH STREET, NATIONAL CITY CENTER 24TH FLOOR, CLEVELAND, OH 44114			LUND, JEFFRIE ROBERT	
		ART UNIT	PAPER NUMBER	
		1763		

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/817,131	HUI, ANGELA T.
	<b>Examiner</b>	<b>Art Unit</b>
	Jeffrie R. Lund	1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 27 February 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 21-37 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 02 April 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date: _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/05</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Election/Restrictions***

1. Applicant's election of Group I, claims 1-20, in the reply filed on October 17, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-16, and 20 rejected under 35 U.S.C. 102(b) as being anticipated by Carducci et al, US Patnet Application Publication 2003/0037880 A1.

Carducci et al teaches a plasma processing apparatus that includes: a gas distribution system 350, 103, 105 for supplying CF<sub>4</sub> to the processing chamber 112; an excitation system including an electrode 105 or RF coil 3105, 3115, 3202, connected to a voltage source 150, 3110, 3204 to form a plasma and excite the fluorine based gas; a temperature control system 121; a pressure control system 8, 109; and a controller 140 for controlling the gas distribution system, excitation system, pressure control system,

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and heating system. (Entire document, specifically, figure 1) Claims 3-16 are directed to the coatings found on the substrate being processed in the apparatus.

It has been held that:

- i. Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danley*, 120 USPQ 528, 531, (CCPQ 1959); "Apparatus claims cover what a device is, not what a device does" (Emphasis in original) *Hewlett-Packard Co. V. Bausch & Lomb Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990); and a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus " if the prior art apparatus teaches all the structural limitations of the claim *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). Also see MPEP 2114; and
- ii. "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." (*Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969)) Furthermore, "Inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims." *In re Young*, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 136 USPQ 458, 459 (CCPA 1963))

The apparatus of Carducci et al is capable of processing substrates having the claimed layers and features, with the desired process method.

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4. Claims 1-20 rejected under 35 U.S.C. 102(b) as being anticipated by Grimbergen et al, US Patnet 6,835,275 B1.

Grimbergen et al teaches a plasma processing apparatus that includes: a gas distribution system 70 for supplying CF<sub>4</sub> and SF<sub>6</sub> to the processing chamber 40; an excitation system including an electrode 45 and RF coil 100, connected to a voltage source 104, 102 to form a plasma and excite the fluorine based gas; a temperature control system (column 14 lines 8-10); a pressure control system 90, 95; an ellipsometry or interferometry measurement system 25; and a controller 140 which receives input from the measurement system and controls the measurement system, gas distribution system, excitation system, pressure control system, and heating system. (Entire document, specifically, figure 1) Claims 3-16 are directed to the coatings found on the substrate being processed in the apparatus.

It has been held that:

iii. Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danley*, 120 USPQ 528, 531, (CCPQ 1959); "Apparatus claims cover what a device is, not what a device does" (Emphasis in original) *Hewlett-Packard Co. V. Bausch & Lomb Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990); and a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus " if the prior art apparatus teaches all

the structural limitations of the claim *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). Also see MPEP 2114; and

iv. "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." (*Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969)) Furthermore, "Inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims." *In re Young*, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 136 USPQ 458, 459 (CCPA 1963))

The apparatus of Grimbergen et al is capable of processing substrates having the claimed layers and features, with the desired process method.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carducci et al, US Patnet Application Publication 2003/0037880 A1, in view of Grimbergen et al, US Patent 6,835,275 B1.

Carducci et al was discussed above.

Carducci et al differs from the present invention in that Carducci et al does not

teach a measurement system.

Grimbergen et al was discussed above and teaches a measurement system.

The motivation for adding the measurement system of Grimbergen et al to the apparatus of Carducci et al is to provide a means for measuring the progress of the process to provide real time feed back to control the apparatus, and to indicate the end of the process as taught by Grimbergen et al.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the measurement system of Grimbergen et al to the apparatus of Carducci et al.

#### ***Response to Arguments***

7. Applicant's arguments filed February 27, 2006 have been fully considered but they are not persuasive.

In regard to the argument that Carducci et al and Grimbergen et al "fails to establish a plasma which interacts with a conductive surface that transforms the surface from a conductive material into a passive layer", the Examiner agrees. However, this point is moot because the present claims are directed to a system (apparatus) not a method of using a system. As noted above, a system (apparatus) is limited by its structure not its use or what it works on. The only structure claimed in the present invention is a gas distribution system and excitation system of claim 1; measurement system and control system of claim 17; a temperature system and pressure system of claims 18 and 19; and a voltage source of claim 20. Both Carducci et al and/or Grimbergen et al teach these structural elements, and differ only in the method

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performed and the substrate treated in the system. The limitation "a plasma which interacts with a conductive surface that transforms the surface from a conductive material into a passive layer" is a use of the plasma chamber to process a substrate having a conductive layer (i.e. work on a substrate having a conductive layer by forming a fluorine containing plasma and transforming a conductive layer to a passive layer).

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrie R. Lund whose telephone number is (571) 272-1437. The examiner can normally be reached on Monday-Thursday (6:30 am-6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-

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273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jeffrie R. Lund  
Primary Examiner  
Art Unit 1763

JRL  
11/28/05